

REVISION OF FIVE KNOWN SPECIES OF FAMILY ASSAMIDAE,
LANIATORES: OPILIONES, ON THE BASIS
OF TYPES AND IDENTIFIED SPECIMENS DEPOSITED
IN THE ZOOLOGICAL SURVEY OF INDIA NATIONAL COLLECTION,
BY ROEWER (1911-1939)¹

(With forty-five text-figures)

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Key words: Revision, types, Opiliones, Palpitores, Laniatores, Assamidae, *Puria dorsalis*, *Assamiella marginata*, *Neassamia aborensis*, *Anassamia rufa*, *Assamia punctata*

Several new genera and species of the Indian Opiliones of suborders Palpitores and Laniatores have been described by Roewer (1911-1939). About 30 species under Suborder Palpitores have been revised by Deshpande (1987), but many are yet to be studied and redescribed. Laniatores, which requires revising and updating, is another major Suborder of Opiliones, constituting 2 large and 2 small families, with a large number of species described from the Indian subcontinent. This communication deals with the revision of 5 species belonging to the Family Assamidae, on the basis of types and identified specimens deposited by Roewer in the National Collection of the Zoological Survey of India, Kolkata. The species dealt here are *Puria dorsalis* (Roewer), *Assamiella marginata* (Roewer), *Neassamia aborensis* (Roewer), *Anassamia rufa* (Roewer) and *Assamia punctata* Roewer.

Indian Opiliones are divided into two major suborders: Palpitores, commonly termed as Daddy long-legs, having unarmed, slender palps bearing distally a minute spine each, body generally large, with smaller numbers of long prominent spines and with comparatively long legs. Laniatores, with broad, expanded and shovelled-in palps armed on inner margins with long, pointed, curved spines and also ending in long piercing spines; body generally smaller with a number of small, tuberculate spines, legs generally short and weak. Indian Laniatores are composed of four families 1. Oncopodidae, 2. Assamidae, 3. Phalangodidae and 4. Gonyleptidae (Martens 1972-78). Families 2 and 3 are larger, with 67 and 12 genera respectively, while 1 and 4 are minor, with only

2 and 1 genera each. Roewer (1911-1939) has described numerous new genera and species under both these suborders, and many of the types and identified specimens have been deposited in the National Collections (NC) of the Zoological Survey of India (ZSI), Kolkata. About 30 species, belonging to the suborder Palpitores, have been revised and 1 new genus and 11 new species added by Deshpande (1987). The types of Indian Laniatores remain to be studied and revised. This is an attempt to redescribe five species of Family Assamidae on the basis of types and identified specimens deposited in the NC, ZSI, Kolkata.

1. *Puria dorsalis* (Roewer)

(Figs 1-11)

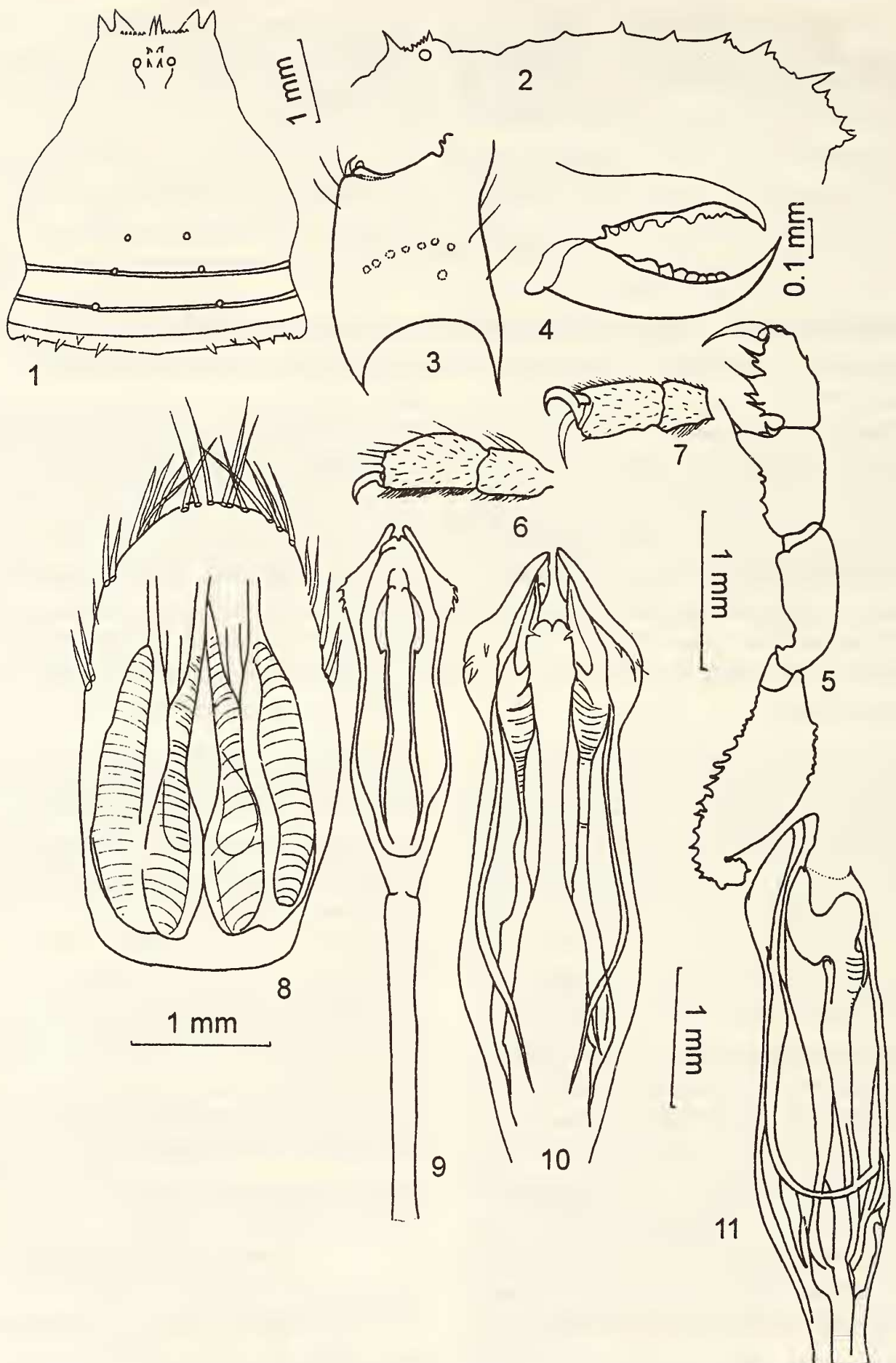
1914. *Assamia dorsalis*: Roewer, *Arch. Natur.*, 80A (9): 106-132.

1923. *Puria dorsalis*: Roewer, *Die. Weber. Erde.*: 1116.

Lectotype: 1 ♀ Yellowish orange, light yellow on appendages, dorsum finely granular,

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Figs 1-11: *Puria dorsalis* (Roewer), 1. Carapace, dorsal aspect, 2. Carapace & abdomen, lateral aspect, 3. Chelicera (basal segment), ventral aspect, 4. Movable and immovable fingers of chelicera, lateral aspect, 5. Palp, lateral aspect, 6. Tarsus & claw of leg I, lateral aspect, 7. Tarsus & claw of leg IV, lateral aspect, 8. Ovipositor, ventral aspect, 9. Penis, ventral aspect, 10. Penis (distal portion), ventral aspect, 11. Penis (distal portion), lateral aspect

more granular on anterior portion, anterior margin with a pair of short median spines, with a pair of more tuberculate spines on each side, lateral margins smooth, bearing small tuberculate spine at level of median eyes, anterior margin supported by a granular sub-marginal ridge, few granules tuberculate and raised with an anterior median spine anterior to the pair of median eyes, ocular tubercle also raised, granular, with a pair of small tuberculate spines, wider than long, followed by a prominent median furrow, posterior 4 segments superficially marked by faint sutures, each with a pair of small to medium tuberculate median spines, posterior margin tuberculate but a sub-median pair prominent and large, rest of the tergites also bear same tubercles on posterior margin, last tergite bears 10-12 small tuberculate spines (Figs 1 & 2). All tergites finely granular; female ovipositor as in Fig. 8, male penis as in Figs 9 (dorsal view), 10 (ventral view, only distal portion) and 11 (lateral view, only distal portion). Chelicera three segmented, 1st segment bulging on anterior dorsal portion, basal segment almost twice as wide as long, smooth except for reticulate dorsal surface, armed with 7+2 ventral, 3+3 outer setae at base of movable finger, 4+4 on outer frontal surface and 3 inner/mesal setae at the base of immovable finger, movable finger armed with serrula of 8 minute teeth on inner margins, immovable finger armed with 7 broader cutting teeth on inner margins (Figs 3 & 4). Palp with short trochanter, carinated, granular, one or two distal granules denticulate; Femur laterally flat, carinated, anterior and posterior carinae crenulate, exterior carinae with 13-15 denticulate granules, inner distal surface provided with sub-

apical small tuberculate denticle; Patella shorter than femur, expanded laterally on dorsal portion, carinated and inner carinae provided with 4-6 denticulate tubercles, outer carinae crenulate, but weak, and a few denticulate tubercles present on distal portion. Tibia longer than patella but shorter than femur, almost quadrangular, inner surface flat, margined with strong but smooth carinae and outer carinae provided with a large pointed apophysis, few spines and tubercles supporting the apophysis, inner carinae also smooth and obsolete but armed with two elongated, pointed spines without apophysis. Metatarsus shorter than tibia, more flat, widened on outer portion provided with 2 long, 2 moderate and 4-5 small spines in series, inner ventral margin with two long spines but shorter than present on tibia. Tarsus with spines, elongated, sharp and curved but shorter than metatarsus. Inter-carinal space on all segments smooth. Legs with coxae I granular, all granules tuberculate and arranged in three rows, first row with 7-9 larger granules, distally armed with a pair of claws (Fig. 7), II-IV with a few obsolete granules, leg I with 6 digits in metatarsus, leg II with 12 digits while legs III & IV bear 7 digits each, distally armed with a single claw each (Fig. 6).

Measurements: Cephalothorax 5.17 mm long.

Material Examined: Lectotype 8 ♀♀, 7 ♂♂; **Locality:** Helwak, 2000' elev., Koyna Valley, Satara district, Maharashtra; Coll. ? [initials on label] Roewer, 1914, No. 3091, ZSI, Type Regn No. 2127/17.

Paralectotypes: 1) 1 ♀, 1 ♂ Tambi, 2500' Koyna valley, Satara district, Coll. F.H. Gravely,

Table 1: Measurements in mm for the palp and legs I-IV of *Puria dorsalis*

	Trochanter	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
Palp	0.66	1.65	0.99	0.86	1.43		5.61
Legs I	0.44	1.43	0.88	1.54	1.65	1.21	7.15
II	0.55	3.96	1.10	3.63	3.74	2.97	15.95
III	0.66	3.08	1.21	2.20	3.30	1.65	12.10
IV	0.77	4.29	1.10	2.06	4.73	1.32	15.07

24-26.iv.1912; det. ?? Roewer, (1914) No. 3087, ZSI, Type No. 2124/17.

2) 1 ♀ East side of Koyna valley, 3500' Satara district, Coll. F. H. Gravely, 24.iv.1912; det. ?? Roewer, 1914, No. 3098, ZSI Type No. 2132/17.

3) 1 ♀, Helwak, Koyna, 2000' Satara district, Coll. F.H. Gravely, 28-30.iv.1912, det. ?? Roewer, 1914, No. 4003, ZSI Type No. 2103/17.

4) 1 ♀, 2 ♂ ♂ Naithal, 2000' Western Ghats, Satara district, Coll. ?, dt. ?, det. Roewer 1914, No. 3096, ZSI Type No. 2130/17.

5) 1 ♀, Palghar, Ratnagiri district, Coll. ?? Agharkar, 1.xi.1912, det. Roewer, 1914, No. 4001, ZSI Type No. 2100/17.

6) 2 ♂ ♂ Mumbai (Bombay), Coll.?, dt.?, det. ?? Roewer, 1914, No. 3079, ZSI Type No. 1559/17.

7) 1 ♂, Hill track garden, Coonoor, S. India, Coll. Capt. Samuel, det. ?? Roewer, 1914, No. 3069, ZSI Type No. 1552/17.

8) 1 ♂, Hill above Barkud, 200-500' Puri district, Coll. F.H. Gravely, 11-13.xi.1912, det. ?? Roewer, 1914, No. 4004, ZSI Type No. 2101/17 (kept in micro-vial).

2. *Assamiella marginata* (Roewer)

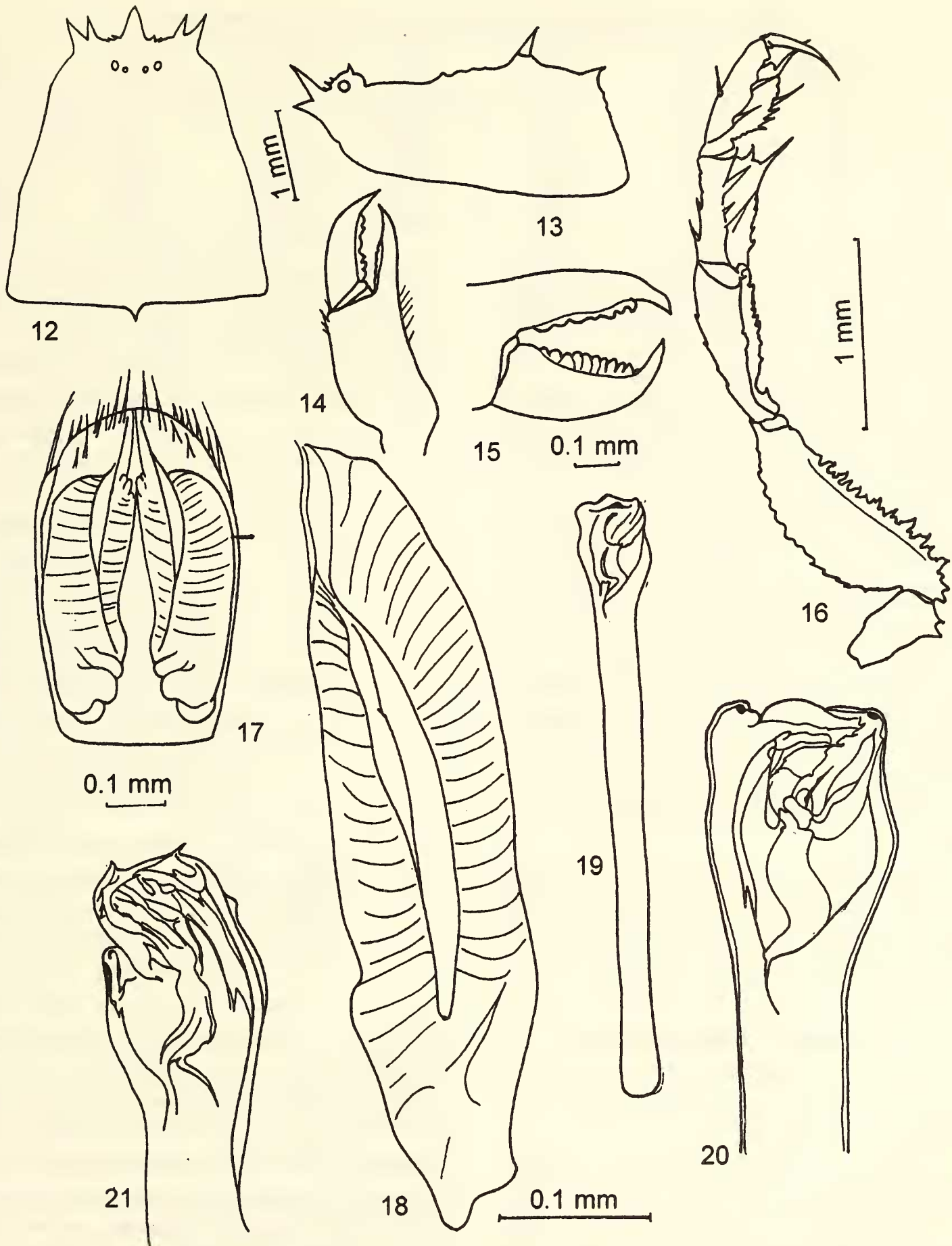
(Figs 12-21)

1912. *Assamia marginata*: Roewer, *Arch. Natg. Berlin*, 78(3): 38.

1929. *Assamiella marginata*: Roewer, *Die wehr. der Erde*: 1116.

Lectotype: 1 ♀ dorsum finely granular throughout and granules concentrated in furrows, lateral margins and around tubercles, anterior margin with a short median spine and two lateral spines, longer than median, margins supported with smooth sub-marginal ridge, surface medially raised into an erect, elongated spine, more than as high as ocular tubercle, lies between anterior median marginal spine and ocular tubercle; ocular tubercle with a pair of median eyes, wider than as long and also as high, with an anterior and a posterior pair of rudimentary

tubercles, median furrow distinct, shallower laterally, posterior portion with four sutures, all with few larger scattered granules and 3rd with a pair of backwardly directed spines; tergites and sternites finely granular, with granular posterior margins (Figs 12 & 13). Female ovipositor as Figs 17 & 18 and male penis as Figs 19 (ventral view), 20 (dorsal view, only distal portion) and 21 (lateral view, only distal portion). Chelicera three segmented, 1st bulging on anterior dorsal portion, basal segment almost twice as long as wide, dorsal surface covered with obsolete ridges — otherwise smooth — with a single seta at base of inner margins of movable fingers, followed by one pair of setae, 4 setae on inner margins, 3-4 on outer surface at the base of movable fingers, ventral surface with 1 seta at the base of movable finger, and 2-3 short setae in series in middle portions, immovable fingers armed with 6 small, triangular cutting teeth grouped 3+3 on inner margins, movable fingers provided with a serrula 7-8 rounded teeth (Figs 14 & 15). Palp with elongated trochanter, widened distally, provided with a pair of ventral tuberculate granules, carinated but carinae weakly crenulate. Femur compressed laterally, bent inward, carinated and outer or exterior carinae coarsely crenulate with 18-20 crenulated tubercles (Fig. 16), inner or interior carinae with continuous crenulations. Patella shorter than femur, widened on distal portions, almost quadrangular on middle portions, carinated, inner carinae with even, small, sparsely spinulate crenulations ending distally into sub-tuberculate spines, exterior carinae weakly crenulate to obsolete. Tibia shorter than patella, wider at distal inner-lateral portions, margins ending in an apophysis, armed with a strong spine and an additional sub-tuberculate spine, inner carinae armed with 2 long spines and a few short spines, outer carinae weakly crenulate to obsolete. Metatarsus wider on outer margin, inner surface concave, lateral outer margin ending spiniform, armed with 2 long, pointed and few short spines; inner



Figs 12-21: *Assamiella marginata* (Roewer), 12. Carapace, dorsal aspect, 13. Carapace, lateral aspect, 14. Chelicera, ventral aspect, 15. Movable and immovable fingers of chelicera, lateral aspect, 16. Palp, dorso-lateral aspect, 17. Ovipositor, ventral aspect, 18. Ovipositor (left enlarged portion), ventral aspect, 19. Penis, ventral aspect, 20. Penis (distal portion enlarged) ventral aspect, 21. Penis (distal portion enlarged) lateral aspect

Table 2: Measurements in mm for palp and legs I-IV of *Assamiella marginata*

	Trochanter	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
Palp	0.66	1.320	0.88	0.770	1.10		04.73
Legs I	0.44	0.242	0.66	0.165	0.275	0.165	09.57
II	0.44	0.396	0.77	0.385	0.473	0.352	17.27
III	0.55	0.330	0.99	0.198	0.264	0.143	10.89
IV	0.55	4.290	1.10	2.750	5.390	1.320	15.40

margin armed with 2-3 elongated spines, other carinae smooth and obsolete. Tarsus spined but spines shorter than metatarsus, curved and pointed sharply (Fig. 16). Legs I-IV coxae granular, coxa I with 5-6 tuberculate granules on anterior distal end, proximal inner margin with a series of 7-8 granules, strongly tuberculate, middle portions with rows of 9-10 granules, while posterior margins bear 10-11 tuberculate granules; coxae II with 11-12 granules on anterior margins, 10 granules on median rows, 8-9 in posterior rows; coxa III with 8-9 granules on anterior and on posterior margins; coxa IV with a few tuberculate granules on outer surfaces, posterior margins with 2-4 tuberculate granules; sternite I with 2-4 elongated tuberculate granules on lateral sides at coxal levels. Leg formula 2431.

Measurements: Cephalothorax 3.52 mm long.

Type-Data: Lectotype 1 ♂, 2 ♀ ♀, **Locality:** Misty hollow, Western sides of Dawana Hills, 2200', Coll. F.H. Gravely, 22-30.xi.1911, det. ?? Roewer, 1912, ZSI Type No. 1182/17.

3. *Neassamia aborensis* (Roewer)

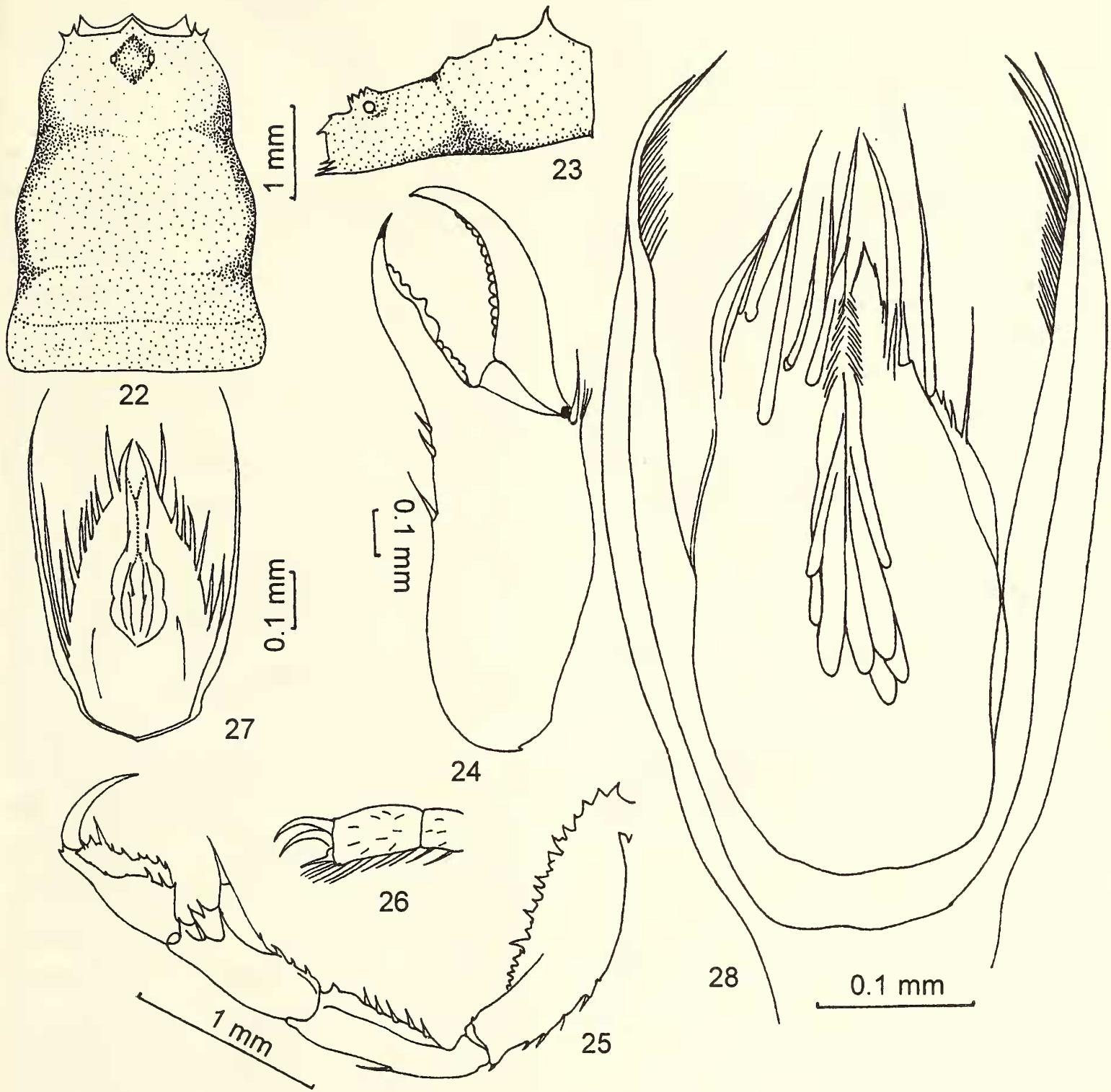
(Figs 22-28)

1913. *Assamia aborensis*: Roewer, *Rec. Indian Mus.*, 8: 203-207.

1935. *Neassamia aborensis*: Roewer, *Veröff. dtsh. Kolonial-u. Übersee-Mus.* 1(1): 36.

Lectotype: 1 ♀ Cephalothorax thickly but finely granular, forming granular ridge along anterior submarginal line, posterior margin with small, inconspicuous spinules, three pairs of lateral prominent spines (middle spine less conspicuous, short), no spine between anterior

median spine and ocular tubercle, ocular tubercle wide, thickly granular on anterior portion with 3 pairs of prominent granules, 1 moderate and 2 rudimentary pairs of tubercles on posterior margin, shallow but distinct furrows on posterior lateral and posterior median portion of eyes (Figs 22 & 23). Abdominal tergites and sternites also with fine but sparse granulation. Female ovipositor as in Figs 27 & 28. Chelicera bulging on outer portion of 1st segment, granular on exterior portion, basal segment globular and granular, with 3 spinulate bristles on inner surface, 3 at base of movable fingers and 2-4 at base of immovable fingers, immovable finger with cutting inner edge bearing 5-6 minute teeth, whereas movable fingers with inner edges bearing 8-10 very minute teeth (Fig. 24). Palp with elongated trochanter, with 1 or 2 sub-tuberculate granules on distal ventral surface. Femur laterally compressed, partially twisted inwards, carinated, outer carinae with 8 large and 11 small double-headed tuberculate crenules, inner carinae weakly crenulate to obsolete on proximal portions. Patella shorter than femur, expanded or dilated distally, quadrangular, carinated, inner carinae sparsely and weakly to poorly crenulate, ending distally in erect sub-denticulate spines. Tibia shorter than patella, expanded on outer sides and armed with strong apophysis with elongated acutely pointed spines, inner ventral margins crenulate, armed with 2 elongate sparsely separated spines, outer carinae obsolete. Metatarsus shorter than tibia, expanded on inner side, margin armed with 2 widely separated strong spines, a few other spines short and stout, only inner ventral carinae



Figs 22-28: *Neassamia aborensis* (Roewer), 22. Carapace, dorsal aspect, 23. Carapace, lateral aspect, 24. Chelicera, ventral aspect, 25. Palp, dorso-lateral, aspect, 26. Tarsus of leg III, lateral aspect, 27. Ovipositor, ventral aspect, 28. Ovipositor (enlarged), ventral aspect

Table 3: Measurements in mm for the palp and legs I-IV of *Neassamia aborensis*

	Trochanter	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
Palp	0.60	1.87	1.10	0.80		1.30	05.67
Legs I	0.60	2.12	0.80	1.93	2.64	1.43	09.82
II	0.60	4.29	0.88	3.96	4.73	1.98	16.14
III	0.60	2.53	0.88	1.67	3.41	1.76	10.25
IV	0.80	5.06	1.21	2.20	5.06	1.32	15.65

obsolete present and inner surface with only a few tuberculate spines. Tarsus shorter than metatarsus, curved and sharply pointed into claw (Fig. 25). Legs I-IV: coxa I ventrally covered with bunch of tuberculate granules on distal portions, anterior margin with 8-9 tuberculate granules and middle rows of 9-10 granules, coxa II anterior margins with 11 granules, coxa III with 10-11 granules on outer margins, coxa IV with 7-8 weak granules on anterior margins. Leg formula 2431.

Measurements: Cephalothorax 3.8 mm long.

Type-Data: Lectotypes 2 ♀ ♀ **Locality:** Upper Rotung, Abor Hills, NEFA (now Arunachal Pradesh), Abor expedition 31.xii.1911, det. Roewer, ZSI, Type No. 1312/17; 1E, **Locality:** Sirpo, Nr. Parjing, 1500' Abor Hills, NEFA (now Arunachal Pradesh), Coll. M. De Courey, March, 1912, det. Roewer, ZSI, Type No. 1307/17.

4. *Anassamia rufa* (Roewer)

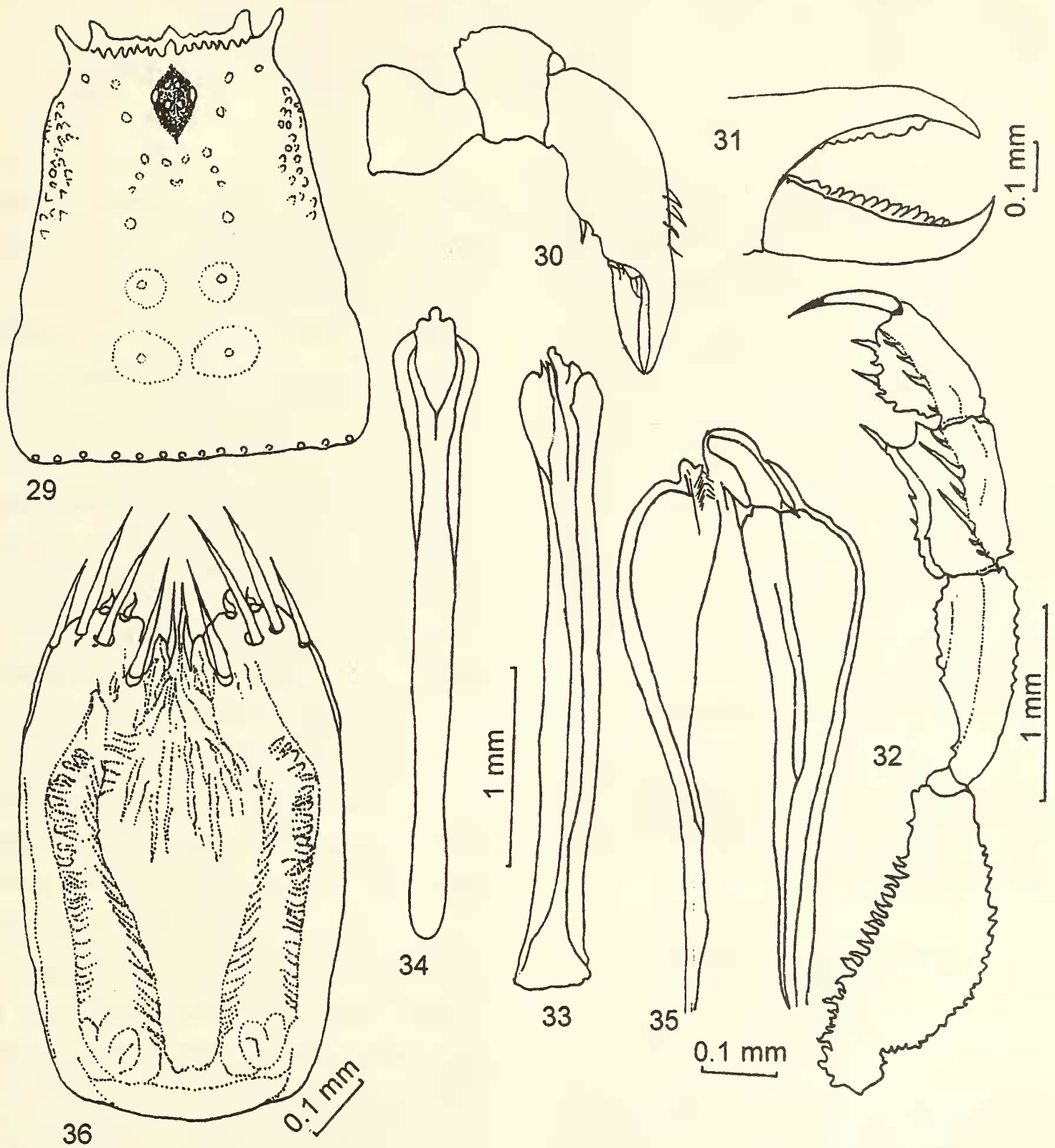
(Figs 29-36)

1927. *Assamia rufa*: Roewer, *Weutn. Weber I*, 26(2): 359.

1935. *Anassamia rufa*: Roewer, *Veröff. dtsh. Kolonial-u. Übersee-Mus.* 1(1): 36.

Cotype: 1 ♀ Cephalothorax closely and finely granular but granules congregated in furrows and margins, some tuberculate granules present along lateral submarginal portions, anterior margin with a short median and two lateral tuberculate spines, with submarginal tuberculate granular ridge, median tubercle spiny between anterior median marginal spine and ocular tubercle, ocular tubercle wider than long

and as high, bearing an anterior and a posterior pair of small tuberculate spines, with a pair of eyes, posterior median furrow distinct, a few tuberculate granules between furrow and ocular tubercle, 3 pairs of median spines placed on elevated portion at distance from anterior margin I: 3.52, II: 3.85 & III: 4.18 and separated from each other by I: 1.32, II: 0.83 & III: 0.72 respectively, lateral margins smooth and posterior margin evenly granular (Fig. 29). Tergites and sternites finely granular with posterior granular margins. Female ovipositor short, swollen and spinous as in Fig. 36, and male penis as in Figs 33-35. Chelicera three segmented, 1st segment bulging dorsally on anterior base of immovable fingers on outer surface, 3 setae on inner surface, 4-5 at the base of movable finger, 6-7 small and stout spines on inner basal surface, movable fingers armed with serrula of 11 minute teeth on inner margins, immovable finger armed with series of triangular, pointed cutting teeth (Fig. 31). Palp with tubular trochanter, armed with a few tuberculate granules on distal ventral portion, femur laterally compressed, slightly inwardly bent, carinated, exterior carinae armed with 13-14 delicately crenulate tubercles, interior carinae crenulate but weak distally. Patella shorter than femur, broad distally, carinated, carinae sparsely crenulated on exterior portions, inner carinae armed with 4-5 short spines. Tibia shorter than patella, expanded on inner portions, carinated, expanded edges with distal apophysis and armed with a strong spine each, edges carinated and provided with a few spines, inner margins with 2 spines. Metatarsus shorter than tibia, also expanded on



Figs 29-36: *Anassamia rufa* (Roewer), 29. Carapace, dorsal aspect, 30. Chelicera (3 segments), lateral aspect, 31. Movable and immovable fingers of chelicera, lateral aspect, 32. Palp, dorso-lateral aspect, 33. Penis, ventral aspect, 34. Penis (distal portion enlarged) ventral aspect, 35. Penis (distal portion enlarged) ventral aspect, 36. Ovipositor, ventral aspect

Table 4: Measurements in mm for the palp and legs I-IV of *Anassamia rufa*

	Trochanter	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
Palp	0.77	1.98	1.21	0.99		1.38	06.33
Legs I	0.55	2.42	0.88	3.19	2.75	1.54	11.33
II	0.55	3.52	0.21	4.29	4.95	2.75	14.57
III	0.66	3.85	1.32	2.42	4.18	1.98	14.41
IV	0.77	5.28	1.32	3.41	5.94	1.98	18.70

outer sides, almost rounded, armed with 2 long and a few short spines, carinae weakly crenulate. Tarsal spine short, curved and acutely pointed. Legs I-IV: Coxa I anterior margin with 6 dentiform granules, posterior margin with 12-13 granules, but only 6-7 distal granules dentiform, ventral median portion covered with row of 10-11 granules but only 5-6 distal granules dentiform; Coxa II with 9-10 dentiform granules only on proximal and middle portions; Coxa III with 4-5 dentiform granules on anterior margin and 7-8 on posterior margin; Coxa IV broader, with a few tuberculate granules on anterior margin and only 2 smooth, flat granules on inner margin; Leg formula 1324.

Measurements: Cephalothorax 5.28 mm long.

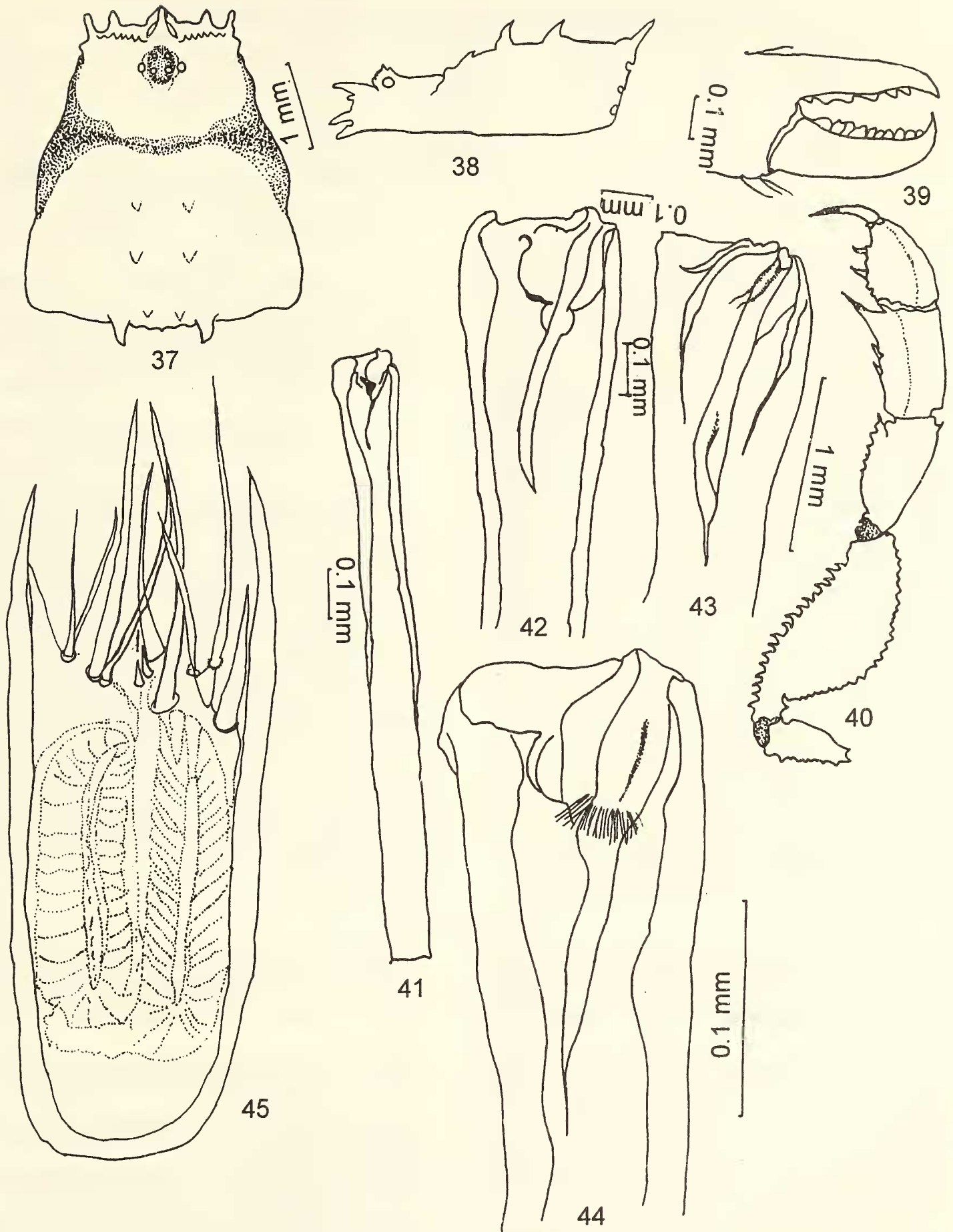
Type-Data: Lectotype 4 ♀, 1 ♂, **Locality:** Birbhum district (now in Assam), det. Roewer, 1924, No. 5583, Indian Museum Type Regn No. 1054/18 (now ZSI).

5. *Assamia punctata* Roewer
(Figs 37-45)

1924. *Assamia punctata*: Roewer ??

Lectotype: 1 ♀, Cephalothorax almost smooth except a few large granules interior to anterior sub-marginal ridge of 7-8 tuberculate granules, with a median upright spine, anterior margin with a median and two lateral spines, both median and lateral equal in length and pointed, ocular tubercle wider than long, and as wide as high, with two pair of spines, anterior pair small and obsolete, posterior pair short, stumpy, but pointed, a pair of median eyes, black

at the base, median furrow distinct in middle portion, posterior portion with 3 upright spines, backwardly directed, and placed at distance of 2.3, 3.0 & 4.2 respectively from anterior margin, 3rd placed on posterior margin, few granules tuberculate (Figs 37 & 38). Tergites almost smooth to weakly but finely granular, posterior margins granular, weakly to poorly tuberculate; sternites smooth except sternite I with 3-4 tuberculate granules on lateral portions. Female ovipositor as in Fig. 45, male penis as in Figs 41 (ventral view), 42 & 43 (ventral view, only distal portion) and 44 (ventral, only distal portion enlarged). Chelicera three segmented, 1st segment bulging on dorsal anterior portions, granular on inner portions, basal segment twice as long as wide, ventral surface with 4+3 spinulate spines, 4 at the base of immovable finger, and 3 at the base of movable finger towards ventral side, 1 seta at the base towards dorsal side, movable finger armed with serrula of 9-10 small teeth in series on inner margin, immovable finger provided with a series of 6-7 small, pointed, cutting teeth on inner margin (Fig. 39). Palp with trochanter tubular but broad distally with 1-2 tuberculate granules on ventral distal end. Femur laterally compressed, flatter in middle portion and curved inwardly, carinated, exterior carinae with 14 dentiform granules, interior carinae weakly crenulate. Patella shorter than femur, expanded distally, concave, carinated, weakly crenulate, inner carinae ending in short, pointed spines. Tibia shorter than patella, almost quadrangular, expanded laterally on ventrolateral margin, carinated and outer ventral carinae provided with few small spines and strong



Figs 37-45: *Assamia punctata* Roewer, 37. Carapace, dorsal aspect, 38. Carapace, lateral aspect, 39. Movable & immovable fingers of chelicera, lateral aspect, 40. Palp, dorso-lateral aspect, 41. Penis, ventral aspect, 42. Penis (distal portion enlarged) dorsal aspect, 43. Penis (distal portion enlarged) ventral aspect, 44. Penis (distal portion further enlarged) ventral aspect, 45. Ovipositor, ventral aspect

Table 5: Measurements in mm for the palp and legs I-IV of *Assamia punctata*

	Trochanter	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
Palp	0.44	1.54	0.88	0.87	1.10		04.83
Leg I	0.44	1.98	0.66	1.43	2.20	1.21	07.92
II	0.55	3.30	0.99	3.08	3.96	2.31	14.19
III	0.55	2.31	0.88	1.76	2.86	1.32	09.68
IV	0.55	2.86	1.10	2.42	2.31	1.65	10.89

apophysis on distal portion, armed with elongated spines and supported anteriorly with smaller spines (Fig. 40), inner ventral margin weakly carinated with 2 elongated spines and a few short spines. Metatarsus shorter than tibia, flat but concave on inner surfaces, outer margin expanded with 2 strong and a few small spines, inner ventral marginal carinae smooth and obsolete but provided with 1 pair of elongate spines. Tarsus shorter than metatarsus, strongly spined, bent inwardly and acutely pointed. Legs I-IV: coxa I ventrally covered with tuberculate granules arranged in two rows, middle row with 10 strongly tuberculate granules on distal portion, anterior margins with 6-7 tuberculate granules; coxa II sparsely granular, 6-7 tuberculate granules on anterior margin, 9-10 tuberculate granules on inner margins, coxa III sparsely granular, 6-7 tuberculate granules on anterior margin and 11-12 on posterior margin, coxa IV granular distally, a few granules present on posterior distal margin; Leg formula 2431.

Measurements: Cephalothorax 4.29 mm long.

Type-Data: Lectotype: 1 ♀, 1 ♂, Locality: Third camp to Misty Hollow, Dawana Hills, 490-2400', Coll. F.H. Gravely, 22-30.xi.1911; det. Roewer, M. 1924, ZSI Type No. 1220/17.

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